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<b>PRE-APPEAL BRIEF REQUEST FOR REVIEW</b>		Docket Number (Optional) 7000-365-1A
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	First Named Inventor Biswaroop Mukherjee	
	Art Unit 2617	Examiner Nizar N. Sivji

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

- applicant/inventor.
- assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)
- attorney or agent of record.  
Registration number 39,877.
- attorney or agent acting under 37 CFR 1.34.  
Registration number if acting under 37 CFR 1.34 \_\_\_\_\_.

/John R. Witcher, III/

Signature

John R. Witcher, III

Typed or printed name

919-238-2300

Telephone number

July 16, 2010

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.  
Submit multiple forms if more than one signature is required, see below\*.

<input checked="" type="checkbox"/>	*Total of <u>1</u> forms are submitted.
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Biswaroop Mukherjee  
Serial No. 10/599,802  
Filed: 10/10/2006  
For: **INDEPENDENT SCHEDULING IN A WIRELESS NETWORK**

Examiner: Nizar N Sivji  
Art Unit: 2617

Mail Stop Appeals  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Appellant concurrently files a Notice of Appeal. Appellant authorizes a charge to Deposit Account No. 14-1315 in the amount of \$540.00 as required by 37 C.F.R. § 41.20(b)(2). Appellant encloses a payment of \$130.00 for a one-month extension of time, and requests that this be considered a petition therefor. If any additional fees are required, the Commissioner is authorized to charge them to Deposit Account No. 14-1315, and consider this a petition therefor.

Claims 5 and 22 were rejected under 35 U.S.C. § 112, second paragraph, for the claim term “in serial fashion” allegedly being indefinite. Appellant refers to its arguments on pages 4-5 of the Response filed January 19, 2010 and respectfully submits that one of ordinary skill in the art having read the Specification (see, e.g., paragraphs 0007 and 0041) knows what is meant by the term “serial fashion.” The ordinary meaning of “in a serial fashion” is that something is done in series (*i.e.*, not in parallel, or at the same time). Since Appellant is relying on the ordinary meaning of “in serial fashion,” the Patent Office’s arguments on pages 11-12 of the Final Office Action mailed March 16, 2010 that Appellant has not redefined the term in the Specification is misplaced. Therefore, Appellant respectfully submits that the rejection of claims 5 and 22 under 35 U.S.C. § 112, second paragraph be withdrawn.

Claims 1, 6-8, 11-13, 16-18, 23-25, 28-30, 33, and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over European Patent No. EP 1059773 A2 to Itai et al. (hereinafter “Itai”) in view of U.S. Patent Application Publication No. 2005/0232224 to Belschner et al. (hereinafter “Belschner”). In order to establish *prima facie* obviousness, “[a]ll words in a claim must be considered” and all limitations must be taught or suggested by the prior art. MPEP § 2143.03, *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Embodiments described in the present application provide a scheduling technique that allows individual nodes in a wireless communication network to independently determine their own communication schedules. In one embodiment, the communication nodes in the wireless communication network are associated with one or more compatible communication nodes through a shared communication medium. In one or more of the described embodiments, each node will exchange

scheduling information with the various compatible communication nodes, and determine the communication schedule for future communications with those compatible communication nodes. In another embodiment, each of the communication nodes has an independent clock, which is not synchronized with the clocks of other compatible communication nodes or a common reference clock.

The combination of Itai and Belschner fails to teach or suggest each and every limitation of claim 1. In particular, the combination of Itai and Belschner does not teach or suggest “exchanging scheduling information with at least one compatible communication node” and “determining a communication schedule for communications with the at least one compatible communication node based on the scheduling information,” as recited in the claimed invention. In addition, the combination of Itai and Belschner does not disclose or suggest “wherein communication nodes in the wireless communication network independently determine communication schedules with other compatible communication nodes.”

The Patent Office alleges that paragraph 0018 of Itai discloses “exchanging scheduling information with at least one compatible communication node” (Final Office Action mailed March 16, 2010, p. 3). Appellant respectfully disagrees. Paragraph 0018 of Itai discloses a wireless mesh topology network having mutually interconnected, line-of-sight nodes 12-19. In each time frame, “every node has scheduled slots with which to exchange control information with each of its neighbors.” (Itai, paragraph 0018). “Any time a node is not participating in a control channel transmission or reception, it is free to schedule the transmission or reception of data packets.” *Ibid.* Appellant initially notes that the nodes in Itai exchange control information, not scheduling information. Moreover, although the nodes in the network of Itai are mutually interconnected, there is no mention that they are “compatible” as defined in the claimed invention. In fact, in Itai, every node communicates with each of its neighbors, which means that Itai does not teach or suggest exchanging scheduling information with “at least one compatible communication node.”

In contrast, in the claimed invention, the various communication nodes in the wireless access network are configured only to communicate with select compatible communication nodes. Communication links are established between pairs of compatible communication nodes; different communication links may use different modulation, space, time, and/or frequency parameters in order to minimize the potential for one communication link to interfere with other communication links. In this way, the disadvantages of a centralized scheduling scheme are avoided, and there is no need for each of the communication nodes to synchronize to a common time base. Each node will independently determine the communication schedules with its compatible communication nodes.

The nodes in Itai are not configured only to communicate with select compatible communication nodes. The Patent Office is reading “compatible communication node” as a node that “has line of sight

communication with at least one neighbor.” (Final Office Action mailed March 16, 2010, p. 12). This interpretation of “compatible” is improper because it is inconsistent with how the term is used in the Specification. Paragraph 0007 states in part: “The communication nodes in the wireless communication network are associated with one or more compatible communication nodes through a shared communication medium [which is turned] into a set of substantially non-contending communication links, wherein the communication links within a group of compatible communication nodes are substantially non-interfering.” Likewise, paragraph 0020 of the Specification indicates that “the various communication nodes 16 in the wireless access network 14 are configured only to communicate with select compatible communication nodes 16. Communication links are established between pairs of compatible communication nodes 16; different communication links may use different modulation, space, time, and/or frequency parameters in order to minimize the potential for one communication link to interfere with other communication links.” Thus, it is clear that “compatible communication node” does not mean any node that has line of sight communication with a neighboring node. Itai does not disclose any determination of compatible nodes and does not disclose that scheduling information is exchanged between compatible nodes.

Itai is silent as to compatible network nodes. Itai also does not disclose that a communication schedule is determined for communications with compatible nodes based on the scheduling information exchanged between compatible nodes. Itai discloses that every node communicates with each of its neighbors. Thus, Itai does not teach or suggest “exchanging scheduling information with at least one compatible communication node in a wireless communication network” and “determining a communication schedule for communications with the at least one compatible communication node based on the scheduling information,” as recited in claim 1. Belschner does not cure the deficiencies of Itai in this regard. Since the combination of Itai and Belschner does not teach each and every limitation of claim 1, claim 1 is patentable.

In addition, the combination of Itai and Belschner does not teach or suggest that the communication nodes in the wireless communication network independently determine communication schedules with other compatible communication nodes, as recited in claim 1. The Patent Office admits that Itai does not teach or suggest that the communication nodes independently determine communication schedules with compatible communication nodes, but argues that the Abstract and paragraph 0025 of Belschner discloses this limitation (Office Action mailed March 16, 2010, p. 3). Belschner does not teach or suggest that the communication nodes in the wireless communication network independently determine communication schedules with other compatible communication nodes, as recited in claim 1. This can be seen from the fact that the a network node in Belschner is integrated as an active node only “if it adapts its local communication time schedule to that of the reference node . . .

and if a check as to whether its own communication time schedule agrees with the communication time schedules of at least some of the active network nodes proves positive.” (Belschner, Abstract). Further, Belschner makes clear that a “common communication time schedule must be established in the network nodes.” (Belschner, paragraph 0007, emphasis added). Moreover, the “time schedule is already determined before operation” in Belschner (Belschner, paragraph 0008). In addition, a “common communication time schedule must be established in the network nodes 1 through 4” (Belschner, paragraph 0027). Thus, it is clear that Belschner teaches that a common schedule must be determined and therefore Belschner does not disclose or suggest that the communication nodes in the wireless communication network independently determine communication schedules with other compatible communication nodes, as recited in claim 1.

Belschner does disclose that the network nodes each have a local clock (Belschner, paragraph 0025). However, only the processing of a communication time schedule is based on the local clock cycle, not the determination of the schedule. *Ibid.* There is no indication that the node uses the local clock to independently determine communication schedules with other compatible communication nodes, as recited in claim 1. In fact, the local clock of the node in Belschner must be synchronized with a global clock (Belschner, Figure 2 and paragraphs 0025 and 0028) Since Belschner is a synchronized network, there must be a common global clock and the schedules are based on a common clock. The nodes in Belschner thus do not independently determine communication schedules. The Patent Office has admitted that Itai does not teach or suggest this limitation. Thus, the combination of Itai and Belschner does not teach or suggest “wherein communication nodes in the wireless communication network independently determine communication schedules with other compatible communication nodes,” as recited in claim 1. Claim 1 is patentable for this additional reason.

Claims 6-8, 11-13, 16, and 17 depend from claim 1 and include all of the limitations of claim 1. Claims 6-8, 11-13, 16, and 17 are therefore patentable for at least the same reasons set forth above with respect to claim 1. Claim 18 is directed to a system and recites limitations similar to the limitations of claim 1. Claim 18 is thus patentable for at least the same reasons set forth above with respect to claim 1. Claims 23-25, 28-30, 33, and 34 depend from claim 18 and include all of the limitations of claim 18. Claims 23-25, 28-30, 33, and 34 are therefore patentable for at least the same reasons set forth above with respect to claim 18.

Claims 2-4, 14, 15, 19-21, 31, and 32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Itai and Belschner and further in view of U.S. Patent No. 6,788,702 to Garcia-Luna-Aceves et al. (hereinafter “Garcia”). Claims 5 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Itai and Belschner and Garcia and further in view of U.S. Patent No. 6,542,476 to Elizondo et al. (hereinafter “Elizondo”). Claims 9 and 26 were rejected under 35 U.S.C. § 103(a) as

being unpatentable over Itai and Belschner and further in view of U.S. Patent Application Publication No. 2003/0067873 to Fuhrmann et al. (hereinafter "Fuhrmann"). Claims 10 and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Itai and Belschner and further in view of U.S. Patent Application Publication No. 2004/0176098 to Besset-Bathias et al. (hereinafter "Besset-Bathias").

Claims 2-5, 9, 10, 14, and 15 depend from claim 1 and include all of the limitations of claim 1. Claims 19-22, 26, 27, 31, and 32 depend from claim 18 and include all of the limitations of claim 18. As set forth above, the combination of Itai and Belschner does not teach or suggest each and every limitation of claims 1 and 18. Garcia, Elizondo, Fuhrmann, and Besset-Bathias, alone or in combination, fail to cure the deficiencies of Itai and Belschner in this regard (see also Responses filed September 9, 2009, pp. 2-8, and January 19, 2010, pp. 5-10). Thus, claims 2-5, 9, 10, 14, 15, 19-22, 26, 27, 31, and 32 are patentable.

In addition, Fuhrmann does not disclose "wherein the communication nodes in the wireless communication network maintain independent clocks, which are not synchronized with one another," as recited in claims 9 and 26. Fuhrmann discloses that a local clock signal, which may be independent from corrections made to a global clock signal (Fuhrmann, paragraphs 0014 and 0015). However, there is no mention that the global and local clock signals in Fuhrmann are associated with the compatible communication nodes of the claimed invention. In fact, the local clock signal in Fuhrmann is derived statically from a quartz oscillator (Fuhrmann, paragraph 0014). Thus, the global clock and the local clock in Fuhrmann are not equivalent to the claimed independent, non-synchronized clocks of communication nodes. Fuhrmann does not teach or suggest that the communication nodes maintain independent clocks, which are not synchronized with one another, as recited in claims 9 and 26. Claims 9 and 26 are patentable for this additional reason.

Appellant thus requests that the present application be allowed for the above reasons.

Respectfully submitted,  
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